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SOCIAL PROBLEMS OF AUTOMATION IN THE SOVIET UNION

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SOCIAL PROBLEMS OF AUTOMATION IN THE SOVIET UNION

[Following is the translation of an article by Borys Lewytskyj in Osterreichische Ost-Hefte (Austrian Monthly Journals), Vol 3, No 1, Vienna, 1961, pages 26-34.]

The most important task Soviet policy has posed itself for the next 15 years, namely the task of overtaking the USA in production per capita, can only be realized through a radical reorganization of the country's economy in keeping with technical progress, modern technology and automation [see note]. Official statements indicate that until 1972 industrial production is to be tripled and productivity in industry is to be increased by two and a half times. For that reason, modernization and automation must be mentioned as decisive factors for the future of the Soviet system ([Note:] So as to increase clarity and avoid repetitions source material will be listed numerically at the end of this article; reference numbers will be found in the text).

At the present time we witness the first measures in this direction. The Twenty-first Congress of the CPSU had already decided upon the establishment of 50 fully automated plants whose experiences were to be utilized in various branches of the economy. According to recent statements 85 such plants are now under construction, and the entire machine industry is being modernized. At the plenum of July 1960 the announcement was made that in 1959 more than 1,500 mechanized production and conveyor systems and approx. 250 automatic and semi-automatic production lines and systems had been imported. Although these measures did not yet result in a decisive modernization of Soviet industry, they do render proof of the Party's iron determination to achieve this goal at any price. "Automation - those are the wings of the Seven-Year Plan", and "Automation - that is the true method of communism" are some of the mottos recently formulated by leading scientists, sociologists and economists to reach this objective.

For many years there has been a special interest in automation in the Soviet Union. The first automatic production

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and progressive assembly line was set up in 1938 in the Stalin-grad Tractor Plant, another one for the production of ball bearings was set up in Gorkiy Automobile Plant. Between 1950 and 1953 the first fully automated plants were established in the Soviet Union.<sup>(1)</sup> However, compared to the current measures, all these are small beginnings. Automation is no longer concerned with single innovations; it will gradually transform the face of the entire economy.

In each society automation presents serious economic and social problems. Until recently, this very fact had been overlooked in the Soviet Union. In a system, where scientific planning represents the basis of all economic development, all disturbances can supposedly be eliminated by suitable counter measures. However, practical experience of the last two years has shown that with regard to automation Soviet society is confronted with social and economic problems which are not easy to solve at all. Even at this early time the major problems can be outlined. Our article will discuss primarily the social consequences of automation and what plans the communists have to overcome negative manifestations in this area. Such plans may also be reflected in certain tenets of general Soviet policy -- this however is an aspect not primarily to be discussed at this time.

Technological Unemployment and Countermeasures

As in the Western world, "technological unemployment" makes itself felt already in the first phase of automation in the Soviet Union as one of the most real and most acute disruptive elements. This is a type of unemployment caused by the disappearance of certain professions and the coming to the fore of others, professions which are not only qualitatively different but which also place special demands on the worker's personality. In the Soviet Union this problem is much more acute than in the present-day Western-democratic society. As late as July 1960 about 47 % of all Soviet industrial workers were occupied with manual tasks. The entire training of technical cadres until 1953 was aimed at one limited area of specialization, in fact, it was aimed at one theoretically predetermined place of work. For this reason, Soviet leadership is currently not very satisfied with the state of the technical cadres -- even though the army of specialists in the Soviet Union exceeds those of the USA and other Western countries in proportion.

Since 1954 a combining of certain professions and occupations seems to be noticeable in the Soviet Union. The times of limited specialization in the training of technical

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cadres are over. Under the conditions imposed by automation and in production areas where mechanized processes prevail, the worker must carry out a number of operations, must be able to service several aggregates simultaneously and perform qualitatively different functions in the production process. The combining of occupations is effected in various ways -- primarily in the plant, where the exact tasks of each job are determined within the work brigade. Occupational training in various types of training facilities outside the plant will henceforth also be based on this principle.

Since the September plenum of 1953 various occupations in agriculture are also combined, e.g. the occupations of tractor driver, combine operator and machinist, in order to create in this way various possibilities of employment: in spring and summer on the field, and in winter repairing machinery or helping in the mechanization of cattle farms etc. Since the machine-tractor stations have been turned over to the kolkhozes, with all their technical equipment, certain occupations heretofore separated, such as agricultural worker, tractor driver and combine operator, were combined into a new job: that of the so-called "agricultural worker - mechanist" ("chleborob-mechanizator"). In Kazakhstan these "mechanists" are also trained to be specialists in processing straw products, as millers or even in the manufacture of paper. (22)

One of the most important measures designed to change the picture of occupational structure in keeping with the new conditions was the school reform of the year 1958. (21) In spite of the difficulties encountered and its relatively small practical success, this reform also demonstrates the determination of Soviet leadership to break with the old system of cadre training. Re-training of workers is driven forward will all available methods. At a recent Union Meeting of Brigades and Activists of Communist Labor it was announced that at the present time 2.5 million workers are training for new occupations yearly. Approx. 5 million workers and employees are improving their qualifications, and over 4 million attend schools, technical training institutes or universities after work. The Soviet government assists in these efforts with all possible means, including the granting of considerable financial allowances for the trainees.

The fight against technological unemployment coincides with the preparation of plans for a "reorganization of labor". Even initial experience has already shown that automation without the simultaneous combining of occupations and without a reorganization of a l l labor would inevitably result in a considerable decrease of productivity. (23)

Important in the picture of the reorganization of labor is establishing new wage scales and work norms. (11) Technical progress reduces the difference between physical and mental

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performance of the worker. This makes an adaptation of wages and salaries to the new situation necessary. Even though this problem is far from being solved in the Soviet Union, the differences in pay between high- and low-paid work are gradually adjusted. An example from the Kharkov Tractor Plant may demonstrate this. There the average wages of workers increased during the last five years from 750 to 900 rubles, i.e. by 20 %, while the average salary of technical and engineering personnel increased by only 14 %. Already some groups of highly skilled workers are not only paid better than technical personnel on a lower level, but they also receive more pay than technical and engineering personnel on a medium level. (11)

Through all these changes the Soviet regime has become fully aware that on a background of struggle for technical progress and automation a new type of worker is bred; this worker represents the basic unit in the new working class that is developing. (22,4,7) At the same degree that heavy physical labor and mental work of an every-day category lose their significance a new type of worker comes to the fore, a worker who is not merely technically educated, but who is the basic element of all productive forces and who will become the master of modern machines. With that, the system of bureaucratic directives or even terror -- customary under Stalin to increase work discipline -- is doomed. Even in the Soviet Union the production process will function only in this age of automation and technical progress if a certain freedom of decision is maintained.

The measures taken to reorganize labor will in turn lead to an increase in the importance of a technical intelligentsia needed to run the plants. (15) Adherence to the "new technology" and execution of the new plans will upset the old equilibrium between directors and engineering-technical personnel. More and more it becomes evident that only specialists -- men highly educated in technology and economic policy -- will be able to direct modern plants effectively. Therefore, an engineer in the USSR today is required to possess not only technical knowledge, but also training in economics. During the past few months, in effect, the professional press demanded that the training of highly qualified technical cadres be adjusted to this situation. In pursuit of this goal the number of "engineer-economists" is to be increased and the training of engineers is to be supplemented.

#### Extent of Vacated Positions

Until 1958 the optimistic thesis could be found in the Soviet press that the vacation of places of work by workers on account of technological progress "... is not accompanied

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by repercussions in a Socialist society." (7) The opinion prevailed that in the course of a planned realization of automation measures could be taken successfully in advance to prevent unemployment. This belief was strengthened by the fact that new plants were continuously under construction; these plants were again to absorb the workers previously freed due to automation. The number of industrial workers (excluding apprentices) grew between 1950 and 1955 by 2,973,000 -- i.e., by 594,600 yearly. This increase in the number of workers will continue. During the period of the Seven-Year Plan the number of workers and employees in the Soviet Economy is expected to increase from 54.6 to 66.5 million. (7,17)

A glance into Soviet professional literature proves, however, that these optimistic prognoses were upset as early as 1959. The dismissal of workers due to introduction of technical improvements reached unexpected proportions. There are enough individual surveys available to give a picture of the extent of dismissals in the various branches of the economy.

As an example the Ukraine may be cited, where industrialization is far advanced. If the plans for mechanization and automation in the Ukraine for the year 1965 will be realized, the release of 80,000 workers in the coal industry, 40,000 workers in the metallurgical sector, and more than 100,000 workers in the sugar and peat processing industry will be unavoidable. (5)

These figures from the Ukraine are very revealing as they show dismissals from all branches of the economy as typical. To give another example, alone the planned mechanization of the cattle industry in the Ukraine will already put some 900,000 persons out of their jobs until 1963.

Partially available information concerning other republics and branches of the economy sheds more light on the picture. Thus measures are taken at the present time to replace 350,000 obsolete pieces of equipment or antiquated production units of various types by new ones. The total replacement costs will amount to only 5.2 billion rubles and be amortized within one year and eight months, as stated at the plenum of the central committee of the CPSU in July 1960. This measure alone will lead to the release of approx. one quarter of a million workers.

Deep repercussions are expected in the building industry, where the percentage of manual laborers is particularly high (in the Ukraine it is 70 %). In some areas the introduction of industrial methods will simply revolutionize the situation. It is expected that within a short time some 133,000 excavation workers, over 100,000 transport workers, and approx. one half million other workers -- heretofore employed at manual tasks -- will become superfluous.

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Equally interesting changes will result from the mechanization and automation of administrative work. Interesting facts from this area were announced at the Union Conference Concerning Questions of Mechanization in the Work of Engineering and Technical Personnel and Administrative Employees, which took place in June 1960 in Moscow. Until 1963 the number of calculating machines in various statistical and administrative offices is expected to be one half million. This will lead to the dismissal of 300,000 persons. Through these releases the State will save approx. two billion rubles in wages and salaries per annum, which equals roughly the production costs of all calculating machines (excluding electronic machines) needed for the Seven-Year Plan. The mechanization of statistical work in the Soviet Union already reduced the number of calculators during the last six years by 52,000.

Measures Against Unemployment

Soviet experts, especially sociologists, are of the opinion that the problem of the released workers can be solved for the time being without serious repercussions in the society. The combining of occupations which was already mentioned, and the intensification of the workers' technical training are some of the important measures taken against unemployment. The retraining of workers makes it possible to solve this problem primarily within the confines of the plant. Numerous accounts published in the Soviet professional press indicate how the workers released from modernized parts of the plant can be transferred to other sections of the installation. This measure, of course, is not taken without negotiations between the plant union representatives and management, since -- in keeping with the law -- those workers changing their places of work must not be moved to inferior positions.

However, such measures become a serious social problem when the workers released must be transferred to other branches in the city or geographical region. Problem cases of this kind are already known; the questions of new wages and living conditions figure prominently in them. The Soviet press does not conceal the fact that during the coming years a considerable number of workers must be prepared to move to new locations. The immediate problem discussed deals with a change of the place of work within the boundaries of the locality, but it becomes increasingly evident that transfers inevitably will also take place within the limits of the oblast or the republic.

At this time the reorganization of Soviet economy in keeping with technical progress and automation is still in its

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beginning stages. But in later years mass transfers to remote areas will become inevitable. This will also be due to the necessity of proper planning with regard to the distribution of the plants -- which does not at all mean that the new plants must necessarily be located in traditionally industrial regions. Also certain great projects will necessitate the transfer of workers from cities and industrial areas into remote regions, for example in the case of the projected raising of the Caspian Sea water level.

In order to overcome certain social tensions expected in the wake of technical progress and automation, a project of considerable proportions is planned -- it involves population mass migrations from the European part of the Soviet Union into Eastern areas. (12) According to the Seven-Year Plan, 40 % of all capital investments are destined for the Soviet East. In the Eastern parts of the Soviet Union are three-quarters of the country's coal deposits, four-fifth of the country's water power and timber, and deposits of certain non-ferrous metals, chemical raw materials etc. The land mass between the Eastern borders of the USSR and the Urals represents 75 % of the total area of the country, with only 22 % of the country's population. Naturally the manpower released in the European part of the Soviet Union is to be channeled in this direction. The Soviet Seven-Year Plan provides already for a rapid development of industry and agriculture in these Eastern areas, a development which can hardly be carried out with the locally available manpower. During the next few years more than two million people are to be transferred from the European part of the Soviet Union and resettled in the East, according to the State Committee for Questions of Work and Wages at the Council of Ministers of the USSR. (17)

In 1956 and 1957 the Central Committee of the CPSU and the Council of Ministers of the USSR mobilized some 400,000 to 500,000 young Russians mainly in the industrial cities of the European part of the USSR, in an attempt to satisfy the most urgent manpower needs. With varying success this campaign continues to this day. Certainly Soviet authorities will not dispense in the future with enlisting members of the Komsomol for the Eastern areas, using more or less direct methods. But the final solution to the manpower shortage can only be provided through a transfer of manpower that has become available in the European part of the Soviet Union, involving complete resettlement with all possessions. Some Soviet sources suggest that this mass migration will probably not be realized without coercive measures, particularly since Soviet authorities will not be able to create satisfactory living conditions for years to come. (12) The building of cities, the development of settlements with the necessary sanitary facilities, the con-



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struction of houses, stores and shops of all kinds, kindergartens and schools -- all of these will be dreams of the future as far as these remote areas are concerned. Contact between the new settlements and the original home area of the settlers is to be maintained through a rapid development of transport facilities, particularly through the use of modern fast planes. Certain facts indicate that the Soviet Union has been successful in this respect. Plane tickets cost less and distances are overcome more quickly. Electrification of the Transsiberian Railways will also contribute to the solution of this problem. However, an overall improvement of living conditions in the Eastern areas will hardly be effected within less than 15-20 years.

That the question of unemployment has become a much more serious problem in the Soviet Union than first expected, is also proven by the fact that it is discussed in literature. In the literary monthly Oktjabr (October), Nos. 7 and 8, 1960, the Soviet writer Fedor Panferov published a novel entitled In the Name of all the Young. In this novel -- perhaps for the first time in Soviet literature -- the tensions caused by automation are clearly and openly reflected. Unfortunately, this is not the place to quote some of the more remarkable passages. Panferov depicts the workers' mood who are forced by technical progress to begin anew at remote places of work, leaving everything behind that they had previously created. Panferov is not the only writer who concerns himself with this problem.

The Problem of Free Time

Only on the background of the social consequences of automation the efforts of the CPSU and the Soviet Government with respect to shorter hours can be fully understood. In 1960 workers and employees were to change to a 7-hour day, the workers in the principal professions of the coal and mining industries including particularly those employed underground were to change to a 6-hour day. In 1962 workers and employees now working seven hours per day will be switched to a 40-hour week. Planned for 1964 is a changeover to a 35-hour week generally, and a 30-hour week for workers employed underground or under other difficult conditions. According to the recently published report of the Central Administration for Statistics over 40 million workers and employees had switched to the shorter work day by October 1, 1960. Undoubtedly, the reduction in working hours must be looked at as a prophylactic measure against mass dismissals in the modern industrial establishment. This, however, does not yet explain the most important reasons

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for this step. These days one discusses in the Soviet Union the utilization of spare time. On the basis of their realization that a universally developed personality is an important factor for progress under automation, Soviet theoreticians have concluded that the way in which the worker uses his spare time should not be left to him individually. In a society, which desires to develop totally on a basis of scientific planning, even spare time must be regulated. Spare time can become an aid to productivity if it is used to further the development of personality. (11, 4)

One can see that this point of view differs considerably from the opinions of Western sociologists with regard to the function of spare time. Western sociologists recommend a more or less clear-cut of working hours and free hours. Soviet theoreticians, to be sure, do also recommend that the Soviet citizen engage in sports in his spare time, that he visit cultural events and be active in community and social affairs, enabling him to take over the functions of the "old" state at a time when a totally "Communist Society" will have materialized. But these accents are really secondary in Soviet planning concerned with spare time. These hours are to be used primarily for the "development of personality", by which is meant the raising of the cultural-technical mental level of the person. For that reason, the reduction in working hours in the Soviet Union will coincide with propagandistic measures challenging the citizen to improve the scope of his economic knowledge. In addition, all forms of schooling and professional training are to receive public support. ([Note:] Lately, the problem of spare time has become a concern for Soviet scientific institutions. Thus, Izvestiya of Nov. 2 reports about a conference called by the economic institute of the Siberian branch of the Soviet Academy of Sciences and the district committee of the CPSU in Kemerovo. At this conference prominent scientists promulgated the thesis that working hours and spare time represented two closely linked and closely interdependent factors in society's overall development.)

Thus there exist close connections between spare time and the further development of productivity as necessitated by technical progress. Some writers recommend the development of "hobbies"; they also cite examples in which through these hobbies simple workers came to make important scientific contributions. The metal technician Sabakeyev of Rostov devoted his spare time to astronomy and as a result he has published six scientific articles on his subject. The Estonian artist Alvert Juksip has concerned himself with botany for over 25 years and is the author of several scientific studies in this area. (1) Here one can discern a deviation from the currently prevailing point of view. In these cases the utilization of spare time

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goes beyond the limits of normal after-hours training; it is used to further individual talent without regard to professional training as a primary objective. This in fact would be what Karl Marx hoped for when he termed spare time as "a measure of the prosperity of future society" and "opportunity for the development of talents."

Under present-day conditions the problem of utilization of spare time has become a dangerous one for the system. In spite of all efforts, everything the State does to exert an influence on the use of spare time has so far been hampered by bureaucratic problems and has altogether proven not very attractive. For that reason the CPSU has intensified its educational work in this direction since 1959 and radically changed its propaganda. The Party's moral -- and sometimes administrative -- judgment of "parasites", loafers and good-for-nothings renders only new proof that the Communists have recognized certain dangers of infection in the area of mis-used spare time, to which particularly young persons are prone.

In a summary of the above it may be concluded that, similar to the West, technical progress in the Soviet Union has a variety of social disturbances in its wake. Some of these seem to be much more pronounced in Soviet society than anticipated by theoreticians -- for example, technological unemployment, the problem of distributing released workers, and finally the problem of spare time. The most important of these disturbances is that of population transfers. Today we are on the eve of one of the largest migrations of people in modern history. Western observers underestimate the situation arising from the fact that soon millions of Soviet citizens from the European part of Russia will be resettled in the East of the Soviet Union.

The struggle of the CPSU for a higher stage of development of the economy has thus assumed proportions of an extremely difficult task to be coped with by the regime. Also realizing that the methods of terror and coercion previously experienced in the Soviet Union are historically on their way out, one can imagine the complexity of the situation. One cannot fail to mention that in contrast to the USA and the Western world the Soviet Union has shown that she is willing to face these problems notwithstanding the social dangers already mentioned. If one further considers the serious economic problems of automation -- which were not mentioned here -- one can get an even better idea of the difficulties of this stage of transition in the Soviet Union which has dawned upon us. ---

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